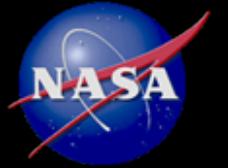


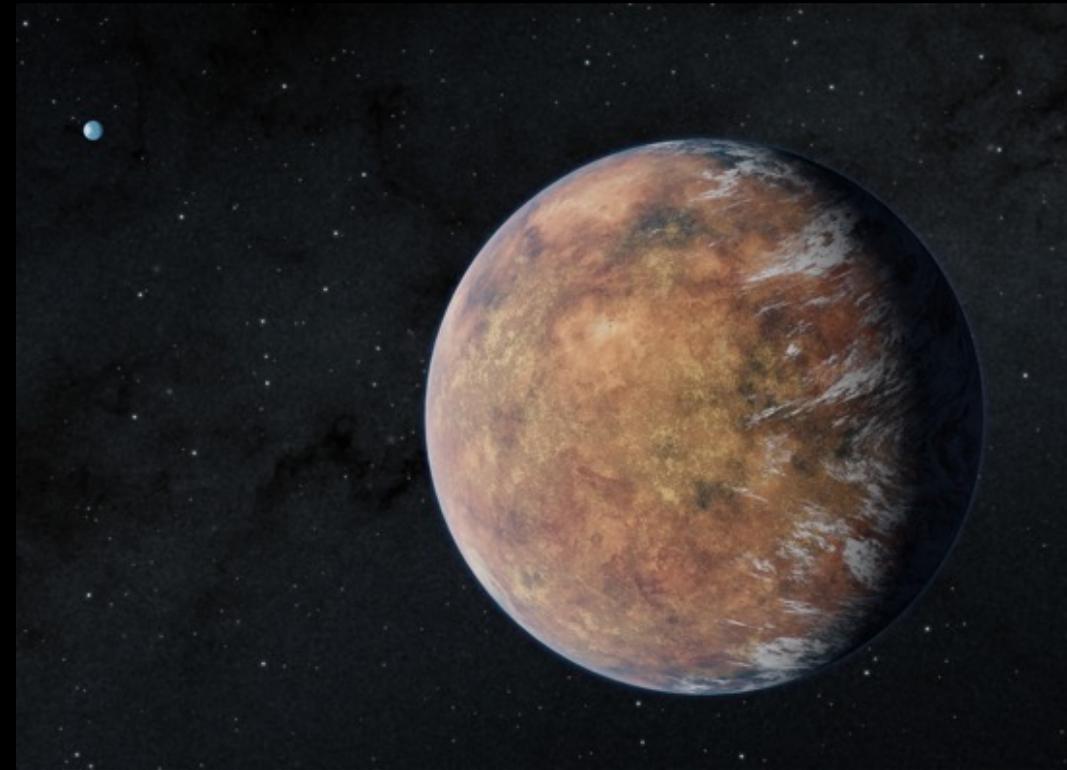
TESS Discovers Planetary System's Second Earth-Size World



Using data from NASA's Transiting Exoplanet Survey Satellite, scientists identified an Earth-size world, called TOI 700 e, orbiting within the habitable zone of its star – the range of distances where liquid water could occur on a planet's surface. The world is 95% Earth's size, likely rocky, and on a 28-day orbit.

Astronomers previously discovered three planets in this system, called TOI 700 b, c, and d. Planet d also orbits in the habitable zone. But scientists needed an additional year of TESS observations to discover TOI 700 e. TESS is managed by Goddard.

TOI 700 e is in the optimistic habitable zone, the range of distances from a star where liquid surface water could be present at some point in a planet's history. This area extends to either side of the conservative habitable zone, the range where researchers hypothesize liquid water could exist over most of the planet's lifetime. TOI 700 d orbits in this region.



Newly discovered Earth-size planet TOI 700 e orbits within the habitable zone of its star in this illustration. Its Earth-size sibling, TOI 700 d, can be seen in the distance. Credit: NASA/JPL

Press release: <https://www.nasa.gov/feature/nasa-s-tess-discovers-planetary-system-s-second-earth-size-world>

Paper: <https://arxiv.org/abs/2301.03617> (ApJ Letters, accepted)